What is claimed is:

1. A method of forming an internally preloaded opposing conical elastomeric bearing assembly, comprising:

forming an inboard bearing element, the inboard bearing element including an inner race primarily bonded to an elastomeric element and an outer race primarily bonded to the elastomeric element;

forming an outboard bearing element, the outboard bearing element including an inner race primarily bonded to an elastomeric element and an outer race primarily bonded to the elastomeric element;

forming an outer housing, the outer housing having an outer surface and an inner surface, the outer surface having a plurality of flange sections extending radially from the outer surface, the inner surface configured to receive inboard and the outboard bearing elements;

inserting the inboard bearing element into the outer housing;

bonding the outer race of the inboard bearing element to the inner surface of the outer housing to form a first secondary bond;

inserting the outboard bearing element into the outer housing such that a frictional connection is achieved between the inner race of the inboard bearing element and the inner race of the outboard element;

bonding the outer race of the outboard bearing element to the inner surface of the outer housing to form a second secondary bond;

pressing the inboard bearing element and the outboard bearing element together to create an axial pre-load; and

attaching a plurality of bearing coupler lugs axially through the inboard bearing element and the outboard bearing element.

2. The method of Claim 1, wherein the first and second, secondary bonds are adhesion bonds.

3. The method of Claim 1, wherein pressing the outboard bearing element further comprises:

joining the inner race of the inboard bearing element with the inner race of the outboard bearing element by a friction fit.

4. The method of Claim 1, wherein the axial pre-load is in a range from about 8,500 pounds to about 15,000 pounds.

5. The method of Claim 1, wherein the bearing assembly is a rotary aircraft flap bearing assembly.

6. A method of forming an internally preloaded opposing conical elastomeric bearing assembly, comprising:

forming an outer housing having a first section and a second section, the outer housing including an outer surface having a plurality of flange portions radially extending therefrom, the outer housing including an inner surface configured to receive a bearing element in the first section and a bearing element in the second section;

forming a tapered conical bearing element including an outer race primarily bonded to an elastomeric element and an inner race primarily bonded to the elastomeric element, the inner race including an extended portion extending beyond the elastomeric element and having a closed end;

inserting the inboard bearing element into the first section of the outer housing, the conical taper bearing element being inwardly directed;

bonding the outer race of the inboard bearing element to the inner surface of the outer housing in the first section to form a first secondary bond;

forming a tapered conical outboard bearing element, the bearing element including an outer race primarily bonded to an elastomeric element and an inner race primarily bonded to the elastomeric element, the inner race including a receiving portion mated to receive the extended portion of the inner race of the inboard bearing, the inner race forming an outer plate;

inserting the outboard bearing element into the second section of the outer housing, the conical taper bearing element being inwardly directed, taper directions of the inserted bearing elements opposing one another and respective inner races frictionally engaging one another, an axial pre-load being applied to the bearing elements;

bonding the outer race of the outboard bearing element to the inner surface of the outer housing in the first section to form a second secondary bond; and

connecting the respective bearing element with a plurality of bearing coupler lugs.

7. The method of Claim 6, wherein the first and second secondary bonds are adhesion bonds.

8. The method of Claim 6, wherein the axial pre-load is in a range from about 8,500 pounds to about 15,000 pounds.

9. The method of Claim 6, wherein the bearing assembly is a rotary aircraft flap bearing assembly.

10. A method of forming a fully articulated rotary hub assembly for rotary aircraft, comprising:

forming a hub center body including a plurality of attachment sections positioned about a periphery of the hub center body, the attachments sections being configured to receive a plurality of bearing assemblies,

creating a plurality of rotor assemblies including a tie bar having a pair of tie bar journal sections configured to be inserted into the bearing assemblies;

forming a internally preloaded bearing assembly including an outer housing having an outer surface and an inner surface, the outer surface being configured with a plurality of radially extending flange sections configured to attach to the attachment sections of the hub center body, the inner surface being configured to receive a pair of opposed taper conical elastomeric bearing elements, each bearing element having an inner race and an outer race, each inner race forming an end plate, wherein the inner races are configured to receive the tie bar journal sections of the rotor assembly;

inserting the tie bar journal section of the rotor assembly into the bearing assembly; and,

connecting the flange sections of the bearing assembly to the attachment sections of the hub center body.

11. The method of Claim 10, further comprising axially pre-loading the bearing elements within the bearing assembly.

12. The method of Claim 11, wherein the axial pre-load is in a range from about 8,500 pounds to about 15,000 pounds.

13. The method of Claim 10, wherein the outer race of the bearing elements are bonded to the inner surface of the outer housing.

14. The method of Claim 13, wherein the bond is an adhesion bond.

15. The method of Claim 10, wherein the inner race of one bearing element is frictionally attached to the inner race of the other bearing element.

16. The method of Claim 10, further comprising fastening the bearing assembly to the tie bar journal by a fastener extending axially through the bearing assembly and into an end of the tie bar journal.

17. The method of Claim 16, wherein the fastener is a bolt.

18. The method of Claim 10, wherein the bearing assembly allows for flap motion of the rotor assembly relative to the hub center body.

19. The method of Claim 10, further comprising connecting the respective bearing elements to each other by a plurality of bearing element fasteners extending through the end plates of each inner race.

20. The method of Claim 19, wherein the fasteners are bolts.